

REMARKS

Claims 1-29 are pending in this application. Claims 1-29 were rejected. Claims 1, 6-8, 12-15, 20-22 and 26-29 (including all independent claims) were rejected under 35 U.S.C. § 103 as being allegedly unpatentable over Alexander Jr. et al., U.S. Patent No. 6,501,749 (“Alexander”) in view of Guruprasad, U.S. Patent No. 7,002,927 (“Guruprasad”). Claims 5 and 19 were rejected under 35 U.S.C. § 103 as being allegedly unpatentable over Alexander in view of Guruprasad and U.S. Patent Publication No. 2006/0067317 (“Engstrand”). Claims 9-11 and 23-25 were rejected under 35 U.S.C. § 103 as being allegedly unpatentable over Alexander in view of Guruprasad and U.S. Patent No. 5,081,621 (“Sugimoto”).

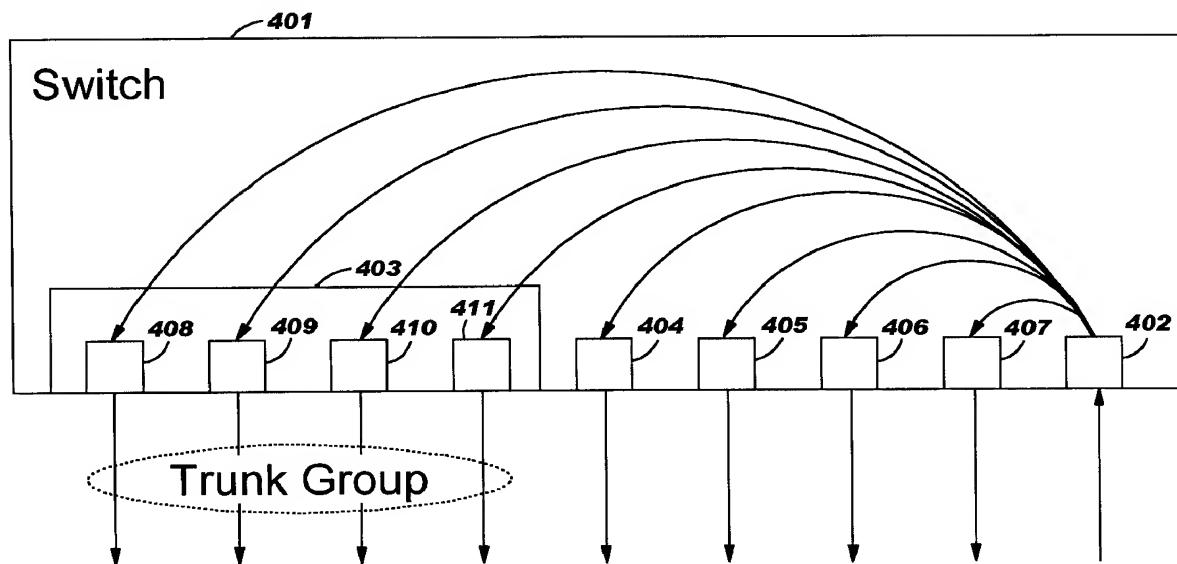
These rejections are respectfully traversed. The Applicants respectfully submit that the previously-presented claims were not obvious over the art relied upon. However, in order to facilitate prosecution, claims 1, 15 and 29 have been amended without prejudice to subsequent presentation of these claims in a continuing or in a related application. Applicants have amended the phrase “plurality of tunnels across a computer network” in the independent claims to recite instead “plurality of tunnels across a public computer network” to make explicit that the computer network at issue is a public one. This amendment is supported by the Specification, for example, at paragraph [00170 and [0018].

The independent claims, as amended, now recite “creating a link aggregation comprising a plurality of tunnels across a public computer network to connect a first computer to a second computer, the plurality of tunnels including a tunnel for each link in the link aggregation.” The Applicants respectfully submit that the claim elements “a plurality of tunnels across a public computer network” and “the plurality of tunnels including a tunnel for each link in the link aggregation” are not taught by Alexander and Guruprasad, either alone or in combination.

Specifically, Alexander, the primary reference, describes a system for handling one-to-many transmissions for link aggregation. It states: “In designing a switch that supports transmission of multicast or broadcast traffic, there are two general approaches that can be used to transmit packets within the switch to their outbound (egress) ports. The first solution is to simply send the packet once to each outbound port. The second solution is to *use a one-to-many solution that allows one transmit with multiple destinations.*” (Alexander, col. 1, lns. 55-61 (emphasis added).) “In architectures that support a one-to-many transmission, transmitting traffic out more than one outbound port (multi-destination traffic) is fairly simple until the egress

ports need to handle the frames differently based on criteria such as a link aggregation virtual interface.” (Alexander, Col. 2, Ins. 1-5). “The specific problem addressed here is how to use a one-to-many transmit strategy for link aggregation.” (Alexander, col. 2, Ins. 14-27.)

However, Alexander does not teach a “plurality of tunnels across a public computer network.” In fact, Alexander does not teach a public computer network or tunneling across a public computer network in any way. Figure 4 of Alexander depicts the system described in Alexander: Figure 4 shows an ingress port and egress ports all contained within a single switch 401:



As described in Alexander and depicted in Figure 4 of Alexander, Alexander addresses how to route traffic *within a particular switch* (between the ingress and egress ports) to achieve one-to-many transmissions.

By contrast, various embodiments of the present application seek to address certain problems associated with transmitting link aggregations across a public computer network, such as an internet service provider (ISP) network. Various embodiments relate to transmitting data across a “public computer network.” As discussed in the Specification, in “data transmission . . . between geographically separated customer sites”, a business customer may wish to “connect via [an Internet service provider] ISP to [the] same business located at another site.” (Specification, [0001] and [0017].). In such situations, “L2PT allows switches on the inbound

side of the ISP infrastructure to encapsulate protocol packets with a special MAC address and send them across the ISP infrastructure. Edge switches on the outbound side of the ISP infrastructure decapsulate the protocol packets and send them to a customer network. . . . Thus, the ISP infrastructure is transparent to the customer network.” (Specification, [0007].) “A significant challenge overcome by the present invention is to process the bundle of connections from one side of an ISP network to the other.” (Specification, [0017].) As the Examiner correctly points out, “tunneling encapsulates packets with a different protocol so they can be transmitted over to [sic] the network operating under that different protocol.” (Office Action, page 2.)

Alexander, as described above, does not discuss tunneling. It addresses a fundamentally different problem: its focus is on what occurs within a particular switching device. It does not mention a “public computer network,” much less “creating a link aggregation comprising a plurality of tunnels across a public computer network.” Based on at least the above, the Applicants respectfully submit that Alexander does not teach “creating a link aggregation comprising a plurality of tunnels across a public computer network to connect a first computer to a second computer, the plurality of tunnels including a tunnel for each link in the link aggregation.”

Guruprasad, the secondary reference, fails to cure the deficiencies of Alexander. The Examiner seeks to use Guruprasad to establish “that the links are tunnels” (Office Action, page 4). However, Guruprasad does not appear to discuss tunneling across a public computer network. The word “tunnel” does at least appear in Guruprasad; however, Guruprasad does not teach tunneling across a public computer network. Guruprasad states:

According to an embodiment of the present invention, a method is provided for automatic aggregation of a plurality 30 of virtual paths emanating from a first switch. The method includes automatically discovering and identifying portions of the virtual paths that run parallel to one another, e.g., through the same set of switches up to a common terminating switch at which the paths diverge or terminate, as a 35 candidate path set for aggregation, constructing a tunnel path along this set of paths all the way between the first switch and the terminating switch, and aggregating the parallel portions identified by the path set into the tunnel.

Guruprasad, col. 3, lns. 12-39.)

As best understood by Applicants, Guruprasad's "tunneling" relates to combining a group of paths into a "tunnel path". It does not relate to encapsulating packets with a different protocol so they can be transmitted over a different network. (See Guruprasad, col. 3, lns, 59 to col. 4, ln. 16, and discussion of tunneling at Office Action, page 2.) Guruprasad does not mention a "public computer network."

Accordingly, the Applicants respectfully submit that the claim elements "creating a link aggregation comprising a plurality of tunnels across a public computer network" and "the plurality of tunnels including a tunnel for each link in the link aggregation" variably recited in claims 1, 15 and 29 are not taught by Alexander or Guruprasad, either alone or in combination. For at least the above reasons, the Applicants respectfully request that the Examiner withdraw the rejections of independent claims 1, 15 and 19, and their dependent claims.

CONCLUSION

For at least the above reasons, the Applicants believe all claims now pending in this application are in condition for allowance. The Applicants therefore respectfully request that a timely Notice of Allowance be issued in this case. Should the Examiner believe a telephone conference would expedite prosecution of this application, please contact the undersigned at the telephone number set forth below.

The Commissioner is hereby authorized to charge any additional fees, including any extension fees, which may be required or credit any overpayment directly to the account of the undersigned, No. 50-4480 (Order No.CISCP586).

Respectfully submitted,

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